

SELECTIVE BANDWIDTH CONNECTIVITY  
THROUGH NETWORK LINE CARDS

Abstract of the Disclosure

Public communication networks increasingly need to provide customers with a range of communication services, from baseband voice service, to computer data communications, to high speed digital data communications for multimedia and the like. Many such services would be blocked by existing telephone network line cards, which provide coding and decoding (CODEC) between analog and digital signals and process digital signals only at a relatively low, fixed bit rate. In accord with the invention, intelligent signal detection and control added to a line card selectively bypasses the CODEC and the associated connection to a time slot limited telephone exchange. The selective bypass connection provides a connection to an alternative network functionality capable of providing higher bandwidth digital services. In the preferred embodiment, the bypass provides a connection through an adaptive digital signal processor with a programmed controller. The digital signal processor provides coding and decoding functions, adapted to the particular communication service requested and the physical level signal protocol used over the customer's line. The digital signal processor also provides a two-way digital communication link to a relatively fast data switch, such as an edge device of an asynchronous transport mode (ATM) network. The data switch and associated data

network provide a full range of digital communication services of various bandwidths or bit rates as may be requested by individual